

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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In re Letters Patent of:  
Samuel P. Sawan

Patent No.: 7,288,264

Issued: October 30, 2007

For: CONTACT-KILLING ANTIMICROBIAL  
DEVICES

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**REQUEST FOR CERTIFICATE OF CORRECTION  
PURSUANT TO 37 CFR 1.322**

Attention: Certificate of Correction Branch  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Upon reviewing the above-identified patent, Patentee noted a typographical error which should be corrected.

On the Front Page:

Please delete the Related U.S. Application Data and replace it with the following:

Continuation of application No. 09/151,495, filed on Sep. 11, 1998, now Pat. No. 6,126,931, which is a division of application No. 08/742,580, filed on Oct. 28, 1996, now Pat. No. 5,817,325, which is a continuation-in-part of application No. 08/663,269, filed on December 13, 1996, now Pat. No. 5,824,325, which is a National Stage of PCT/US94/14636, filed on Dec. 19, 1994, which is a Continuation of application No. 08/220,821, filed March 31, 1994, now

abandoned, and a Continuation of application No. 08/170,510, filed December 20, 1993, Pat. No. 5,490,938.

The error was not in the application as filed by applicant; accordingly no fee is required. Enclosed is a copy of the Preliminary Amendment filed October 27, 2000, which correctly lists all priority applications.

The Commissioner is authorized to charge any deficiency of up to \$300.00 or credit any excess in this fee to Deposit Account No. 04-0100.

Dated: September 25, 2008

Respectfully submitted,

By /Flynn Barrison 53,970/

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***IN THE UNITED STATES PATENT AND TRADEMARK OFFICE***

APPLICANT(S): Sawan et al.  
SERIAL NUMBER: 09/617,566 GROUP NUMBER: 1617  
FILING DATE: July 17, 2000 EXAMINER: N. Levy (prior application)  
TITLE: Contact-Killing Antimicrobial Devices

Commissioner for Patents  
Washington, D.C. 20231

**PRELIMINARY AMENDMENT**

Sir:

Please enter this Preliminary Amendment for the above-identified continuation application prior to substantive examination. Claims 1-24 are cancelled without prejudice and new claims 25-49 are introduced herein. Accordingly, after entry of this Amendment, claims 25-49 will be pending for examination.

**AMENDMENT**

**In the Specification**

On page 1, line 2 of the upper right hand side, delete "BPL-004" and insert therefor -- SUR-004DVCN --.

On page 1, delete the paragraph after "Related Applications" and insert therefor -- This application is a continuation of U.S. Serial No. 09/151,495, filed September 11, 1998, which is a division of U.S. Serial No. 08/742,580, filed October 28, 1996, now U.S. Patent No. 5,817,325, which is a continuation-in-part of U.S. Serial No. 08/663,269, now U.S. Patent No. 5,869,073, which is a filing under 35 U.S.C. § 371 of PCT/US94/14636, filed December 19, 1994, which claims priority to U.S. Serial No. 08/220,821, filed March 31, 1994, now

abandoned, and to U.S. Serial No. 08/170,510, filed December 20, 1993, now U.S. Patent No. 5,490,938, the disclosures of which are herein incorporated by reference.

Statement of Government Support

This invention was made with government support under Grant Nos. 2 R44 EY10787-02, 5 R44 EY10787-03 and 3 R44 EY10787-03S1, awarded by the Department of Health and Human Services (National Institutes of Health - National Eye Institute). The government has certain rights in the invention. --

In the Claims

Please cancel without prejudice claims 1-24.

Please add new claims 25-49 as follows.

- 25. An article of manufacture comprising an antimicrobial coating, wherein the antimicrobial coating comprises a nitrogen-containing polycationic polymer matrix having dispersed therein or attached thereto an antimicrobial metallic material such that the antimicrobial coating does not release biocidal amounts of elutables into the surrounding environment.
26. The article of claim 25 wherein the nitrogen-containing polycationic polymer matrix comprises benzalkonium groups or derivatives thereof.
27. The article of claim 25 wherein the antimicrobial metallic material is selected from the group consisting of a metal, a metal salt, a metal complex, a metal alloy, and mixtures thereof.
28. The article of claim 27 wherein the metallic material comprises silver.
29. The article of claim 27 wherein the mixture comprises silver and copper.
30. The article of claim 27 wherein the metal salt is silver iodide.

31. The article of claim 25 wherein the nitrogen-containing polycationic polymer matrix is crosslinked with a crosslinking agent.
32. The article of claim 31 wherein the crosslinking agent is selected from the group consisting of isocyanates, carboxylic acids, acid chlorides, acid anhydrides, succimidyl ether aldehydes, ketones, alkyl methanesulfonates, alkyl trifluoromethanesulfonates, alkyl para-toluenemethanesulfonates, alkyl halides, and epoxides.
33. The article of claim 31 wherein the crosslinking agent is N,N-methylene-bis-diglycidylaniline.
34. The article of claim 25 wherein the metallic material is transferred to or taken up by the microorganism when the microorganism contacts the surface.
35. The article of claim 25 wherein the article is a medical device, a personal care product, or a consumer product.
36. The article of claim 25 wherein the article is a medical device selected from the group consisting of surgical gloves, surgical instruments, dental care instruments, dental consoles, instrument trays, catheters, urological devices, blood collection and transferring devices, devices from implanting in a patient, urine collection devices, ophthalmic devices, intraocular lenses, tracheotomy devices, topical disinfectants and wound dressings.
37. The article of claim 35 wherein the personal care product is selected from the group consisting of hair care items, toothbrushes, dental floss, dental implements, contact lenses, contact lens storage cases, baby care items, child care items, bathroom implements, bed linens, towels and wash cloths.

38. The article of claim 35 wherein the consumer product is selected from the group consisting of kitchen implements, trash containers, disposable trash bags and cutting boards.
39. A method of inhibiting microbial growth comprising the steps of:
  - providing a substrate comprising an antimicrobial coating comprising an antimicrobial metallic material associated with a nitrogen-containing polycationic polymeric matrix such that the nitrogen-containing polycationic polymeric matrix does not release biocidal amounts of the antimicrobial metallic material into an ambient aqueous solution; and
  - killing or inhibiting a microorganism that contacts the antimicrobial coating.
40. The method of claim 39 wherein the antimicrobial metallic material is selected from the group consisting of a metal, a metal salt, a metal complex, a metal alloy, and mixtures thereof.
41. The method of claim 40 wherein the antimicrobial metallic material comprises silver.
42. The method of claim 40 wherein the metal salt is silver iodide.
43. The method of claim 39 wherein the nitrogen-containing polycationic polymeric matrix contains benzalkonium groups.
44. The method of claim 39 wherein the nitrogen-containing polycationic polymeric matrix is crosslinked with a crosslinking agent.
45. The method of claim 44 wherein the crosslinking agent is selected from the group consisting of isocyanates, carboxylic acids, acid chlorides, acid anhydrides, succinidyl

ether aldehydes, ketones, alkyl methanesulfonates, alkyl trifluoromethanesulfonates, alkyl para-toluenemethanesulfonates, alkyl halides, and epoxides.

46. The method of claim 39 wherein the substrate is selected from the group consisting of a metal, a wood, a synthetic polymer, a natural fiber, a synthetic fiber, a cloth, a paper, a rubber, and a glass.
47. The method of claim 39 wherein the substrate is a plastic selected from the group consisting of a polysulfone, a polyacrylate, a polyethersulfone, a polyamide, a polycarbonate, a polyvinylidene fluoride, a polyethylene, a polypropylene and a cellulosic.
48. The method of claim 39 further comprising the step of crosslinking the nitrogen-containing polymer matrix to the substrate.
49. The method of claim 44 further comprising the step of crosslinking the nitrogen-containing polymer matrix to the substrate. --

#### **REMARKS**

Claims 1-24 are cancelled without prejudice. New claims 25-49 are added.

Consequently, after entry of this amendment, claims 25-49 will be pending for examination.

Applicant submits that no new matter is introduced by the new claims and that claims 25-49 are in condition for allowance.

#### **In the Specification**

The specification is amended to refer to the current attorney docket number, to include a specific reference to earlier, related applications for which the benefit of their filing dates is claimed under 35 U.S.C. §120, and to comply with the Bayh-Dole Act and related regulations

requiring a statement regarding government rights. Applicants submit that no new matter is introduced by these amendments.

#### New Claims

Support for new claim 25 may be found in the application as filed at least at page 4, lines 2-5, reciting devices, articles and surfaces that do not leach significant amounts of antimicrobial materials into the surrounding environment; at page 18, lines 4-16, reciting as preferred a number of polycationic polymers containing nitrogen; and in originally filed claims 1, 2 and 6.

Support for new claims 26 and 43 may be found throughout the specification and at least at page 18, line 4, and in originally filed claims 5 and 6.

Support for new claims 27 and 40 may be found in the application as filed at least in originally filed claim 2.

Support for new claims 28 and 41 may be found in the application as filed at least at page 7, line 11.

Support for new claim 29 may be found in the application as filed at least at page 7, lines 3-4 and 9-10.

Support for new claims 30 and 42 may be found in the application as filed at least in originally filed claim 4.

Support for new claims 31 and 44 may be found in the application as filed at least in originally filed claim 8.

Support for new claims 32 and 45 may be found in the application as filed at least in originally filed claim 9.

Support for new claim 33 may be found in the application as filed at least in originally filed claim 10.

Support for new claim 34 may be found in the application as filed at least in originally filed claim 11.

Support for new claim 35 may be found in the application as filed at least in originally filed claim 12.



Support for new claim 36 may be found in the application as filed at least in originally filed claim 13.

Support for new claim 37 may be found in the application as filed at least in originally filed claim 14.

Support for new claim 38 may be found in the application as filed at least in originally filed claim 15.

Support for new claim 39 may be found in the application as filed at least at page 17, lines 1-4 and 15; at page 18, lines 4-16; and in originally filed claim 16.

Support for new claim 46 may be found in the application as filed at least in originally filed claim 23.

Support for new claim 47 may be found in the application as filed in originally filed claim 24.

Accordingly, Applicants submit that no new matter is introduced by the new claims.

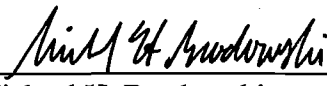
### CONCLUSION

Applicants respectfully submit that claims 25-49 are in condition for allowance and request entry as such. If the Examiner believes a telephone conference with Applicant's attorney would expedite prosecution of this application, the Examiner is invited to call the undersigned attorney at (617) 248-7012.

Respectfully submitted,

Dated: October 27, 2000  
Reg. No. 41,640

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**UNITED STATES PATENT AND TRADEMARK OFFICE  
CERTIFICATE OF CORRECTION**

Page 1 of 1

PATENT NO. : 7,288,264  
APPLICATION NO. : 09/617,566  
ISSUE DATE : October 30, 2007  
INVENTOR(S) : Samuel P. Sawan

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

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